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## Graphs and Networks from an Algorithmic Information Perspective

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### Message from the Collection Editors

Dear Colleagues,

Graph theory and network science are classic subjects in mathematics widely investigated in the 20th century, transforming research in many fields of science from economy to medicine. The analysis of such networks is even more challenging for multiscale, multilayer networks, that are neither static nor in an equilibrium state. Recent advances in network science suggest that algorithmic information theory could play an increasingly important role in breaking those limits imposed by traditional statistical analysis in modeling evolving complex networks or interacting networks.

This Special Issue is a forum for the presentation and exploration of the foundations of new and improved techniques for the analysis and interpretation of real-world natural and engineered complex systems. Not only from the perspective of algorithmic information theory but also in connection with dynamical systems and causality. Model-driven techniques augmenting explainability or better interpretable approaches to machine learning, better causation-grounded graphical models, and algorithmic information dynamics in application to networks, all fall within the scope of this Special Issue.



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### **Prof. Dr. Kevin H. Knuth**

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## Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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